sheet (3)

1 Find Z-transform and RoC For the following sequences:

a- $x(n) = n e^{3n} u(n)$

b- $x(n) = (-1)^n u(n)$

c- $x(n) = n u(n-1)$

d- $x(n) = \{1, 1/2, 0, 0, 1\}$

2 using Z-transform Properties to Find X(z) For:

a- $x(n) = (0.5)^n + (0.25)^n + 3\,\delta(n-2)$

b- $x(n) = (-1)^n \sin(wn) + e^{-2n} \cos(wn)$

c- $X(s) = \dfrac{10}{(s+1)(s+2)}$

d- $x(n) = 3n + (0.2)^{n-1} u(n-1)$

3 Find intial value and final value For:

a- $X(z) = \dfrac{1}{(z-1)(z-0.3)}$

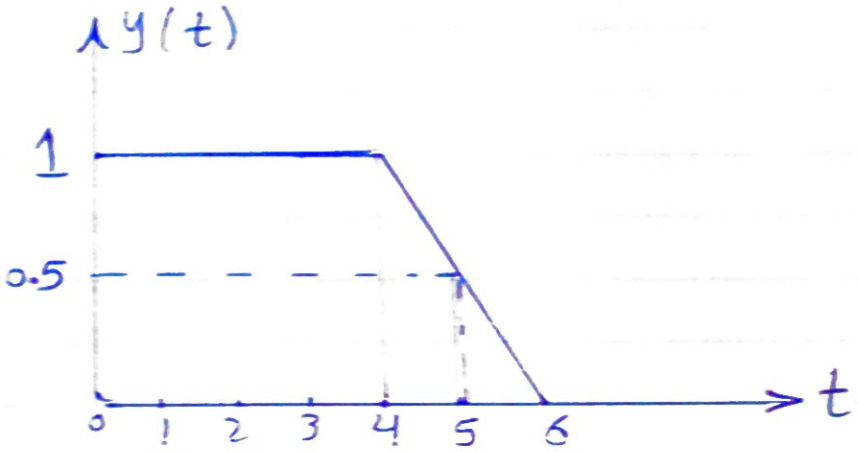
b- $X(z) = \dfrac{z(z+1)}{(z+2)(z+4)}$

c- $X(z) = \dfrac{2z}{(z-1)(z-2)}$

[4] Find $Y(z)$ For the following eqns.

a- $y(n) = x_1(n) * x_2(n)$

where $x_1(n) = (0.5)^n u(n-1)$

$x_2(n) = \delta(n) e^{2n}$

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